Table 10.3 Fuel Ethanol Overview, 1981-2009

Year	Feedstock [1]	Losses and Co-products [2]	Denaturant [3]	Production [4]			Trade [4]			Stocks [4,6]	Stock Change [4,7]	Consumption [4]			*Consumption Minus Denaturant* [8]
							Imports	Exports	Net Imports [5]						
	Trillion Btu	Trillion Btu	Thousand Barrels	Thousand Barrels	Million Gallons	Trillion Btu	Thousand Barrels	Thousand Barrels	Thousand Barrels	Thousand Barrels	Thousand Barrels	Thousand Barrels	Million Gallons	Trillion Btu	*Trillion Btu*
1981	13	6	40	1,978	83	7	NA	NA	NA	NA	NA	1,978	83	7	*7*
1982	R34	16	107	5,369	225	19	NA	NA	NA	NA	NA	5,369	225	19	*19*
1983	R63	29	198	9,890	415	35	NA	NA	NA	NA	NA	9,890	415	35	*34*
1984	R77	R35	243	12,150	510	43	NA	NA	NA	NA	NA	12,150	510	43	*42*
1985	R93	R42	294	14,693	617	52	NA	NA	NA	NA	NA	14,693	617	52	*51*
1986	R107	R48	339	16,954	712	60	NA	NA	NA	NA	NA	16,954	712	60	*59*
1987	R123	R55	390	19,497	819	69	NA	NA	NA	NA	NA	19,497	819	69	*68*
1988	R124	R55	396	19,780	831	70	NA	NA	NA	NA	NA	19,780	831	70	*69*
1989	R125	R56	401	20,062	843	71	NA	NA	NA	NA	NA	20,062	843	71	*70*
1990	R111	R49	356	17,802	748	63	NA	NA	NA	NA	NA	17,802	748	63	*62*
1991	R128	R56	413	20,627	866	73	NA	NA	NA	NA	NA	20,627	866	73	*72*
1992	R145	R64	469	23,453	985	R84	NA	NA	NA	1,791	NA	23,453	985	R84	*81*
1993	R169	R74	550	27,484	1,154	R98	244	NA	244	2,114	323	27,405	1,151	R98	*95*
1994	R188	R82	614	30,689	1,289	109	279	NA	279	2,393	279	30,689	1,289	109	*106*
1995	R198	R86	647	32,325	1,358	R115	387	NA	387	2,186	-207	32,919	1,383	117	*114*
1996	R141	R61	464	23,178	973	R83	313	NA	313	2,065	-121	23,612	992	84	*82*
1997	R186	R80	613	30,674	1,288	109	85	NA	85	2,925	860	29,899	1,256	R107	*104*
1998	R202	R86	669	33,453	1,405	R119	66	NA	66	3,406	481	33,038	1,388	R118	*115*
1999	R211	R90	698	34,881	1,465	R124	87	NA	87	4,024	618	34,350	1,443	122	*119*
2000	R233	R99	773	38,627	1,622	R138	116	NA	116	3,400	-624	39,367	1,653	R140	*137*
2001	R253	R108	841	42,028	1,765	R150	315	NA	315	4,298	898	41,445	1,741	R148	*144*
2002	R307	R130	1,019	50,956	2,140	R182	306	NA	306	6,200	1,902	49,360	2,073	R176	*171*
2003	R400	R169	1,335	66,772	2,804	R238	292	NA	292	5,978	-222	67,286	2,826	R240	*233*
2004	R484	R203	1,621	81,058	3,404	R289	3,542	NA	3,542	6,002	24	84,576	3,552	R301	*293*
2005	R552	R230	1,859	92,961	3,904	R331	3,234	NA	3,234	5,563	-439	96,634	4,059	R344	*335*
2006	R688	R285	2,326	116,294	4,884	R414	17,408	NA	17,408	8,760	3,197	130,505	5,481	R465	*453*
2007	R914	R376	3,105	155,263	6,521	R553	10,457	NA	10,457	10,535	1,775	163,945	6,886	R584	*569*
2008	R1,300	R531	4,433	R221,637	R9,309	R790	R12,610	NA	R12,610	R14,226	R3,691	R230,556	R9,683	R821	*800*
2009P	1,493	606	5,507	256,149	10,758	913	4,614	–	4,614	16,711	92,492	258,271	10,847	920	*894*

[1] Total corn and other biomass inputs to the production of undenatured ethanol used for fuel ethanol.
[2] Losses and co-products from the production of fuel ethanol. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol—these are included in the industrial sector consumption statistics for the appropriate energy source.
[3] The amount of denaturant in fuel ethanol produced.
[4] Includes denaturant.
[5] Net imports equal imports minus exports.
[6] Stocks are at end of year.
[7] A negative value indicates a decrease in stocks and a positive value indicates an increase.
[8] Consumption of fuel ethanol minus denaturant. Data for fuel ethanol minus denaturant are used to develop data for "Renewable Energy/Biomass" in Tables 10.1-10.2b, as well as in Sections 1 and 2.
[9] Derived from the preliminary 2008 stocks value, not the final 2008 value shown in this table.

R=Revised. P=Preliminary. NA=Not available. – = No data reported.

Notes: • Fuel ethanol data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by the approximate heat content of fuel ethanol—see Table A3. • Through 1980, data are not available. For 1981-1992, data are estimates. For 1993-2008, only data for feedstock, losses and co-products, and denaturant are estimates. For 2009, only data for feedstock, and losses and co-products, are estimates. • See "Denaturant," "Ethanol," "Fuel Ethanol," and "Fuel Ethanol Minus Denaturant" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Page: http://www.eia.gov/oil_gas/petroleum/data_publications/petroleum_supply_monthly/psm.html.

Sources: **Feedstock:** Calculated as fuel ethanol production (in thousand barrels) minus denaturant, and then multiplied by the fuel ethanol feedstock factor—see Table A3. **Losses and Co-products:** Calculated as fuel ethanol feedstock plus denaturant minus fuel ethanol production. **Denaturant:** • 1981-2008—Data in thousand barrels for petroleum denaturant in fuel ethanol produced are estimated as 2 percent of fuel ethanol production; these data are converted to Btu by multiplying by 4.641 million Btu per barrel (the estimated quantity-weighted factor of pentanes plus and conventional motor gasoline used as denaturant). • 2009—U.S. Energy Information Administration (EIA), *Petroleum Supply Monthly (PSM),* monthly reports, Table 1. Data in thousand barrels for net production of pentanes plus at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 4.620 million Btu per barrel (the approximate heat content of pentanes plus). Data in thousand barrels for net production of conventional motor gasoline at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 5.253 million Btu per barrel (the approximate heat content of conventional motor gasoline). Total denaturant is the sum of the values for pentanes plus and conventional motor gasoline. **Production:** • 1981-1992—Fuel ethanol production is assumed to equal fuel ethanol consumption—see sources for "Consumption." • 1993-2004—Calculated as fuel ethanol consumption plus fuel ethanol stock change minus fuel ethanol net imports. These data differ slightly from the original production data from EIA, Form EIA-819, "Monthly Oxygenate Report," and predecessor form, which were not reconciled and updated to be consistent with the final balance. • 2005-2008—EIA, Form EIA-819, "Monthly Oxygenate Report." • 2009—EIA, *PSM,* monthly reports. **Trade, Stocks, and Stock Change:** • 1992-2008—EIA, *Petroleum Supply Annual (PSA),* annual reports. • 2009—EIA, *PSM,* monthly reports. **Consumption:** • 1981-1989—EIA, *Estimates of U.S. Biofuels Consumption 1990,* Table 10; and EIA, Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), estimates. • 1990-1992—EIA, *Estimates of U.S. Biomass Energy Consumption 1992,* Table D2; and EIA, CNEAF, estimates. • 1993-2004—EIA, *PSA,* annual reports, Tables 2 and 16. Calculated as 10 percent of oxygenated finished motor gasoline field production (Table 2), plus fuel ethanol refinery input (Table 16). • 2005-2008—EIA, *PSA,* annual reports, Tables 1 and 15. Calculated as motor gasoline blending components adjustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15). • 2009—EIA, *PSM,* monthly reports, Table 1. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments. **Consumption Minus Denaturant:** Calculated as fuel ethanol consumption minus the amount of denaturant in fuel ethanol consumed. Denaturant in fuel ethanol consumed is estimated by multiplying denaturant in fuel ethanol produced by the fuel ethanol consumption-to-production ratio.